

a landmark selection unit configured to select landmark data based on the road pattern data and the road network data from said storage unit;

a route guidance information generation unit configured to generate the route guidance information using the road pattern data and the landmark data selected by said landmark selection unit; and

a presentation unit configured to present the route guidance information.

24. (New) The apparatus according to claim 23,

wherein the road network data includes a plurality of nodes and a plurality of arcs each connecting two nodes;

wherein node data of each node includes a node identifier, a node position, a node name, the number of arcs connecting the node, and an arrangement of arc identifiers connecting the node; and

wherein arc data of each arc includes an arc identifier, positions of a starting point and an end point of the arc, an arc name, and an arc width.

25. (New) The apparatus according to claim 23, wherein the landmark data includes a landmark identifier, a landmark name, a class of the landmark, a priority degree, and a position of the landmark.

26. (New) The apparatus according to claim 23, wherein said road pattern analysis unit measures an angle difference between two roads each connected to a junction on the route.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

27. (New) The apparatus according to claim 23, wherein said landmark selection unit selects the landmark data based on geometrical information of the route and the road pattern data.

28. (New) The apparatus according to claim 23, wherein said landmark selection unit selects the landmark data included in an area of which center position is a junction on the route, a size of the area being calculated based on a width of each road connected to the junction.

29. (New) The apparatus according to claim 28, wherein said landmark selection unit divides the area into a plurality of landmark selection areas by each road connected to the junction, assigns a priority degree, based on an advance direction along the route, to each of the plurality of landmark selection areas, and selects at least one landmark included in the landmark selection area based on the priority degree of each landmark selection area, the priority degree of each landmark, and a distance from the route to each landmark.

30. (New) The apparatus according to claim 26, wherein said storage unit includes a decision dictionary configured to store a plurality of expressions of route guidance in correspondence with the angle difference between two roads and a pattern of the junction, the expression of route guidance representing for a user how to advance the junction.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

31. (New) An apparatus for generating route guidance information based on route information supplied from outside, comprising:

a storage unit configured to store road network data including a plurality of nodes and a plurality of arcs each connecting two nodes, and a plurality of expressions of route guidance in correspondence with a junction pattern and an advance direction of the junction pattern;

a road pattern analysis unit configured to analyze an angle difference between two roads each connected to a junction of the route information and a pattern of the junction by referring to the road network data;

a route guidance information generation unit configured to generate the route guidance information based on the expression of route guidance corresponding to a result of the analysis; and

a presentation unit configured to present the route guidance information.

32. (New) The apparatus according to claim 31,

wherein node data of each node includes a node identifier, a node position, a node name, the number of arcs connecting the node, and an arrangement of arc identifiers connecting the node; and

wherein arc data of each arc includes an arc identifier, positions of a starting point, and an end point of the art, an arc name, and an arc width.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER 

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

33. (New) A method for generating route guidance information based on route information supplied from the outside, comprising:

storing road network data and landmark data in a memory;

analyzing a road pattern along a route of the route information by referring to the road network data;

selecting landmark data based on the road pattern and the road network data from the memory;

generating the route guidance information using the road pattern and the selected landmark data; and

presenting the route guidance information.

34. (New) The method according to claim 33,

wherein the road network data includes a plurality of nodes and a plurality of arcs each connecting two nodes;

wherein node data of each node includes a node identifier, a node position, a node name, the number of arcs connecting the node, and an arrangement of arc identifiers connecting the node; and

wherein arc data of each arc includes an arc identifier, positions of a starting point and an end point of the arc, an arc name, and an arc width.

35. (New) The method according to claim 33, wherein the landmark data includes a landmark identifier, a landmark name, a class of the landmark, a priority degree, and a position of the landmark.

36. (New) The method according to claim 33, wherein the analyzing further comprises measuring an angle difference between two roads each connected to a junction on the route.

37. (New) The method according to claim 33, wherein the selecting further comprises selecting the landmark data based on geometrical information of the route and the road pattern.

38. (New) The method according to claim 33, wherein the selecting further comprises selecting the landmark data included in an area of which center position is a junction on the route, a size of the area being calculated based on a width of each road connected to the junction.

39. (New) The method according to claim 38, further comprising:
dividing the area into a plurality of landmark selection areas by each road connected to the junction;

assigning a priority degree to each of the plurality of landmark selection areas based on an advance direction along the route; and

selecting at least one landmark included in the landmark selection area based on the priority degree of each landmark selection area, the priority degree of each landmark, and a distance from the route to each landmark.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com

40. (New) The method according to claim 36, further including storing in a decision dictionary of the memory a plurality of expressions of route guidance in correspondence with the angle difference between two roads and a pattern of the junction, the expression of route guidance representing for a user how to advance the junction.

41. (New) A method for generating route guidance information based on route information supplied from the outside, comprising:

storing road network data including a plurality of nodes and a plurality of arcs each connecting two nodes, and a plurality of expressions of route guidance in correspondence with a junction pattern and an advance direction of the junction pattern;

analyzing an angle difference between two roads each connected to a junction of the route information and a pattern of the junction by referring to the road network data;

generating the route guidance information based on the expression of route guidance corresponding to a result of the analyzing; and

presenting the route guidance information.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER ^{LLP}

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
www.finnegan.com